

The 'Beauty Fallacy'

Religion, science and the aesthetics of knowledge

The relationship between science and religion has been, and still is, the subject of much discussion, both among scholars of religion and among historians and philosophers of science. Despite the cultural and historical complexity of the issue, since the nineteenth century the question of the interaction between science and religion has been constantly framed in the rather simple terms of their mutual 'compatibility' or 'exclusion'. The historical roots of such discussions are entwined with the emergence both of modern science as a practice and an ideal, and of the field of the cultural study of religion. It was in the modern period that the assertion of the existence of a 'conflict' between science and religion emerged and a series of binary oppositions were constructed, such as those between 'rational' scientific knowledge and 'irrational' religious belief, or between an 'objective' scientific representation of reality and the poetic imagination allegedly characteristic of religious traditions and mythology.

ALTHOUGH THE NOTION OF A CONFLICT between science and religion is still today often found in popular discourse and general history (for example, Wikipedia presents us with this model, under the entry 'Relationship between religion and science'), in-depth historical studies have shown that these views cannot be regarded any more as a reliable frame of reference, and that 'science' and 'religion' can only serve as fruitful heuristic concepts if they are regarded as culturally and historically situated. It has been suggested that avoiding the use of the terms 'religion' and 'science' might be the most heuristically fruitful strategy. While we emphasise that many scholars do not speak about the detailed empirical reality of religions and sciences when addressing the

science-and-religion nexus, but rather apply these general categories to very specific constellations – in most cases, to the tensions between a very specific form of Christian theology and an equally specific concept of the natural sciences, leaving social sciences and humanities aside – we believe that, when approaching the issue from a critical perspective, thinking through the relationship between 'religion' and 'science' as domains of functionally differentiated societies remains very relevant. Both fields influence large parts of the cultures we live in, and they are both subject to ideological and practical conflicts concerning how we should live, what we should do and what modes of knowledge are being accepted in order to make decisions, at the individual level and beyond. Processes of differentiation and de-differentiation, or disenchantment and re-enchantment, to use the contested Weberian terms, also need both elements for their observation, the general concepts of knowledge formation and the detailed empirical-historical study. Accordingly, in the following pages we shall approach both 'religion' and 'science' as discursive and material cultural practices that have created specific institutions, group formations, norms and behaviours which are entangled in manifold, different ways.

Setting aside ideological claims or normative debates on belief justification, we shall focus on the form in which knowledge claims are expressed in science and religion employing words, images, diagrams or other media strategies. By paying attention to form rather than meaning, we do not aim to play off form against content, or images against arguments. We claim, however, that attending to sensory forms impacts on the analysis of the content. The aesthetics of knowledge will serve as a heuristic tool

to explore how religious and scientific practices have, at the same time, developed as differentiated spheres and on the basis of this differentiation have come to be increasingly closely entwined in new ways since the beginning of the modern epoch. We understand that an aesthetics of knowledge potentially encompasses all the ways in which the production, communication and appropriation of knowledge is entangled with the body and sensory perception, as well as with the aesthetic practices of the relevant cultural-historical environment. We do not aim at putting forward a theory of knowledge, and the views of the contributors to this special issue may differ from each other in their notions of what knowledge is. We do share the conviction, though, that knowledge in general, and scientific knowledge in particular, is a construct in which no clear-cut distinction between 'form' and 'content' is possible, and that there exist diverse modes of knowledge, which allows us to speak of both science and religion as knowledge-producing cultures.

A further division, which we problematize in the following pages, is that between knowledge on the one side and belief on the other, where 'knowledge' is usually associated with the scientific sphere and 'belief' with the religious one. This special issue aims at turning away from ontological arguments – as to whether art, religion and science refer to the same 'truth'; but at the same time, we are not proposing that all modes of knowledge are of equal value. We rather see the social construction of knowledge as an inter-relational, ongoing process that we want to approach analytically, looking at all three areas together.

In an introductory review essay, Arianna Borrelli and Alexandra Grieser make explicit which areas of research such a concept of an aesthetics of knowledge can draw from. In the area of religion, we can build on critical studies of religion and science, but also on the newly-developing approach of an aesthetics of religion that focuses on how religious traditions succeed in creating and maintaining not only systems of belief, doctrines and theologies, but also embodied ways of knowing, orders of perception and cultures of emotions that influence the wider cultures they are embedded in. The field of science and technology studies is vast and fragmented, so we will offer a broader, necessarily sketchy, but hopefully informative, overview of the many ways in which the relationships between scientific knowledge and aesthetics have been conceptualized and problem-

atized in recent decades. Three original contributions follow, whose authors contribute in diverse ways, and from different perspectives, to disentangle the many modes in which knowledge, belief and the sensory relation with the world interact. This special issue also includes reviews of works which we regard as having, each in its own way, provided an original contribution to the questions which lie at the core of our theme.

The three papers offer case studies on how, both in popular and academic discourse, aesthetic validations of science are often associated with verbal or non-verbal rhetoric which has religious connotations. Popular examples of this phenomenon include Steven Weinberg's 'first three minutes', the beauty of 'the eightfold way' and of 'supersymmetry', or nanotechnology's 'Grey goo' scenario. Such themes are often put down as 'mere metaphors', but in fact there is more to them than that. In science, media and cultural studies the essential connection between knowledge and its sensually perceivable form has been the subject of a broad range of studies. As sketched out in the review essay below, this research has shown that aesthetic qualities of knowledge are not confined to its presentation, or representation, but are inevitably part of the episteme of science and knowledge. Therefore, the fact that the scientific community systematically relies on aesthetic strategies traditionally associated with religion cannot be easily dismissed as a purely formal affair. The contributions to this special issue provide exploratory studies of significant historical constellations in which the scientific and religious aesthetics of knowledge merge. We make no claim of exhaustiveness, and rather aim at offering case studies demonstrating how fruitful a closer collaboration of religion and science studies in this direction could be. Studying changing strategies of knowledge legitimation is a fruitful approach for understanding science as a practice closely linked to its cultural context. We explore these strategies in the context of a historical perspective, considering both aesthetic arguments involving beauty, ugliness or the sublime, and strategies based on using aesthetic forms and media. These two strategic modes are often closely connected, with rhetorical references to beauty and truth standing side by side with literary descriptions, visualizations or sonifications of knowledge appealing directly to aesthetic perception.

The papers explore how aesthetic strategies usually associated with the religious sphere are deployed

in science communications, and how they affect the presentation of knowledge claims. A feature making this group of studies especially interesting is its highly interdisciplinary character, resulting from a collaboration between scholars from different disciplinary backgrounds who first met at the 6th International Conference of the European Society for the History of Science in Lisbon, Portugal. The collaboration has been further developed by the guest editors, Arianna Borrelli (history of science, theoretical physics) and Alexandra Grieser (study of religion), as a sub-project within the DFG-funded network AESToR.net. The competence areas of the contributors include the history of science, the study of religion, literature and media studies.

The case studies to be discussed span the period between the early twentieth century up to today and address a broad range of disciplines and of media investigated: Arianna Borrelli focuses on the sublime beauty of symmetry extolled by theoretical physicists; Vanessa Cirkel-Bartelt discusses pre-World War 2 fictional descriptions of nuclear apocalypse; and Roberta Buiani shows how the imagery of medicine can be variously perceived by physicians and by patients, enabling or disabling affective relations both to medical conditions and to life itself. The studies will provide insights into the diverse ways in which aesthetic strategies – textual, visual, argumentative – are engaged, and how they are bound together by the impetus to add another layer of meaning to the debate concerning ‘religion and science’. They are also brought together by a mutual aim to find out how, in detail, these aesthetic strategies impact on larger cultural repertoires of meaning: as a means to impart knowledge; to advertise science beyond the knowledge it produces; to create an aura of science as beautiful; and to make ontological claims that reach out far beyond the limited framework of scientific knowledge.

As a final observation, we want to make it clear that critically assessing the role of aesthetics and beauty in the communication of science is not meant to bring aesthetic expressions under the jurisdiction of science; nor do we support ideals of a ‘pure’ or ‘aniconic’ way of communicating scientific knowledge. We have chosen the, somewhat bold, title the ‘Beauty Fallacy’, though, because we want to highlight that more often than not aesthetic aspects in science communication are treated as a surplus, or as a matter of ‘pretty pictures’, with no relation to the

kind of knowledge they impart. The provocative title may help to make clear that we deem reflecting on the aesthetic aspects of knowledge to be an important means of reflecting on how we know, and how, in a larger culture, we cultivate the ways that knowledge is accepted and turned into action. It is not less, but more awareness to aesthetic aspects of knowing that we commit ourselves to. However, this cannot happen when aesthetics is confined to being merely a romantic notion of beauty, and when beauty is decoupled from the cultural and political ideologies within which it is communicated. ■

ALEXANDRA GRIESER and ARIANNA BORRELLI
Guest Editors

Arianna Borrelli is a historian and philosopher of natural philosophy and modern science. She is currently working at the Technische Universität Berlin on a project funded by the German Research Council (DFG) on concept formation in early particle physics (1950–65) (DFG Project-Nr. BO 4062/2-1).

Alexandra Grieser is Assistant Professor for the Theory of Religion at Trinity College, Dublin. Her research focuses on method and theory in the study of religion; European pluralism; the history and theory of knowledge; religion and rhetoric; and the aesthetics of religion.